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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,865	07/09/2003	Fritz Gestermann	22133-00005-US	8164

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EXAMINER
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WILKINS III, HARRY D

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/614,865

Applicant(s)

GESTERMANN ET AL.

Examiner

Harry D. Wilkins, III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-20 is/are pending in the application.
- 4a) Of the above claim(s) 3,5,9,11,13-15 and 17-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6,8,10,12 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant is reminded that the elected species was the species of figures 1 and
2. As such, the claims requiring that the metal electrode had a corrugated, zigzag or rectangular waveform cross section no longer read on the elected species. As such, claims 3 and 9 are withdrawn from consideration as being drawn to a non-elected species.

### ***Claim Interpretation***

2. The independent claims have been amended to require that the metal electrode is "angled and/or curved". "Angled and/or curved" can be interpreted in several ways based on the disclosure as a whole; however, within the context of the elected species for examination (figures 1 and 2), "angled and/or curved" does not add sufficient structure to distinguish the claimed electrode from the prior art. "Angled" has not been given a specific definition by Applicant; as such, it is interpreted broadly to mean "having corners". "Angle" is defined in this context as either (1) a corner whether constituting a projecting part or a partially enclosed space <they sheltered in an angle of the building> or (2) the figure formed by two lines extending from the same point. Thus, since the electrode of Rohde had corners where two lines extended from the same point, the claims have not been structurally distinguished from the electrode of Rohde. Further, the guides of Rohde are part of the electrode and would function as an active electrode surface. Therefore, the angles formed where the guides (surface d) met the front

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surface of the electrode (surface e) are part of the electrode and make the electrode "angled".

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 6, 10 and 12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Rohde (DE 484,761).

Rohde anticipates the invention as claimed. Rohde teaches (see figures 1-2) a metal electrode including at least one orifice that is provided with a guide capable of conducting gas away from the electrode. The portions of the metal electrode forming the ducts are "angled" and the electrode structure itself included multiple corners.

Regarding claim 10, the electrode of Rohde would have been expected to inherently have a depth of at least 1 mm

Regarding claim 12, Rohde teaches (see figure 2) an electrochemical cell with the claimed metal electrode.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rohde (DE 484,761).

Rohde is silent with respect tot the total cross-sectional area of the orifices.

However, it would have been obvious to one of ordinary skill in the art to have optimized the amount of area devoted to the orifices in order to maximize the electrode contact area compared to the amount of gas ducting provided by the orifices.

7. Claims 1, 2, 4, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Faita (US 5,770,035) in view of Rohde (DE 484,761).

Faita teaches an electrolytic cell suitable for the chlor-alkali membrane process including an anode compartment (3) having a metal anode (4), a cathode compartment (2) with a gas diffusion cathode (8) and an ion exchange membrane (1) arranged between the anode compartment and the cathode compartment.

Faita fails to teach that the metal anode had at least one orifice provided with a guide structure capable of conducting gas formed to a side of the anode facing away from the cathode compartment.

Rohde teaches (see 1<sup>st</sup> paragraph, orally translated by USPTO and figures 1 and 2) a metal electrode for use in a diaphragm/membrane cell wherein the electrode had orifices for conducting gas formed to a side of the electrode facing away from the opposite compartment.

Therefore, it would have been obvious to one of ordinary skill in the art to have substituted the metal electrode of Rohde for the expanded metal mesh anode of Faita

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because the metal electrode of Rohde provided for easily removing the gas formed in an electrolytic cell away from the electrode and diaphragm/membrane.

Regarding claim 2, Rohde is silent with respect tot the total cross-sectional area of the orifices. However, it would have been obvious to one of ordinary skill in the art to have optimized the amount of area devoted to the orifices in order to maximize the electrode contact area compared to the amount of gas ducting provided by the orifices.

Regarding claim 4, the electrode of Rohde would have been expected to inherently have a depth of at least 1 mm

Regarding claim 12, Faita in view of Rohde teach an electrochemical cell with the claimed metal electrode.

Regarding claim 16, Faita teach using a titanium-palladium alloy for the anode and a carbon-based gas diffusion cathode. One of ordinary skill in the art would have been motivated to make the electrode of Rohde from the same material as taught by Faita in order to maintain the same electrocatalytic activity.

### ***Response to Arguments***

8. Applicant's arguments filed 7 August 2006 have been fully considered but they are not persuasive. Applicant argued that

- a. The electrode of Rohde was not "angled" as claimed, and that the orifices were "angled".

In response, see the claim interpretation section above.

- b. With respect to claims 2 and 8, the Examiner failed to adequately address the claim limitations.

In response, the size limitation of claim 2 and 8 have not been shown to produce an unexpected result. Absent a showing of unexpected results, changes in size/proportion have been held to be *prima facie* obvious. See MPEP 2144.04.IV.A.

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

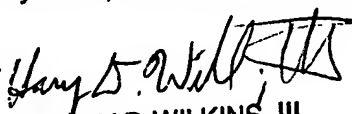
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D. Wilkins, III whose telephone number is 571-272-1251. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
HARRY D. WILKINS, III  
PRIMARY EXAMINER

hdw